



# GUIDELINES & STANDARDS

## **GUIDELINE C.01 - Emergency Fire Access: Roadways, Fire Lanes, Gates and Barriers**

### **C.01.1 PURPOSE**

The purpose of this guideline is to provide information necessary to ensure that the design of emergency fire access roadways, gates and barriers meet the applicable regulations and standards. These provisions allow the emergency resources to respond to an incident in a safe and effective manner. The Newport Beach Fire Department, local law enforcement, and property owners are responsible for enforcing these requirements from the California Fire Code (CFC), California Vehicle Code (CVC), and the Newport Beach Municipal Code (NBMC).

### **C.01.2 SCOPE**

For the purpose of this guideline, the terms "street," "roadway" and "road" apply to all roads, streets, ways, lanes, alleys, avenues, fire lanes, etc. These outlined procedures are applicable to all emergency access roadways, whether public or private. It includes the requirements for emergency access roadway design, signage, striping and alternative surfaces, plus requirements and provisions for enforcement.

### **C.01.3 PROCEDURE**

#### **FIRE APPARATUS ACCESS ROADS AND FIRE LANES:**

1. Approved fire apparatus access roads shall be provided for every facility, building or portion of a building hereafter constructed or moved into or within the jurisdiction. The fire apparatus road shall comply with the requirements of this guideline and shall extend to within 150 feet of all of the facility and all portions of the exterior walls of the first story of the building as measured by an approved route around the exterior of the building or facility.
  - More than one road may be required when it is determined that access by a single road may be impaired by vehicle congestion, condition or terrain, weather conditions which could result in dangerous situations or other factors that could limit access.



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- When required by the Fire Code Official, approved signage or other approved notices shall be provided and maintained for emergency access roads to identify such roads and prohibit obstruction thereof or both. Signs or notices shall be maintained in a clean and legible condition at all times and to be replaced or repaired when necessary to provide adequate visibility.
2. Widths are to be measured from top of the face of the curb on streets with curb and gutter, from flowline-to-flowline on streets with rolled curbs. Flowline is the lowest continuous elevation of a rolled street curb defined by the path traced by a particle in a moving body of water at the bottom of the rolled curb.

These dimensions are for straight roadways only; apparatus turning radius requirements must also be met.

- For new developments with public fire access roadways, the minimum width of the street shall be 36 feet, with parking allowed on both sides.
- For new developments with private fire access roadways, the minimum width of the street shall be 32 feet, with parking allowed on one side. The minimum width for parking on two sides of the street is 36 feet. (As referenced in Council Policy L-4)
- For existing fire access roadways, the minimum street width shall be 20 feet, with no parking on either side. The width shall be increased to 26 feet within 30 feet of a hydrant, no vehicle parking allowed. Parking on one side is permitted for streets that are a minimum of 28 feet wide. Parking on both sides of a street is permitted for streets that are a minimum of 36 feet wide.
- Access roads shall have an unobstructed vertical clearance of not less than 13'6".



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3. Roads must be constructed of a material that provides an all weather driving surface and capable of supporting 72,000 pounds imposed load for fire apparatus and truck outrigger loads of 75 pounds per square inch over a two foot area. Calculations stamped and signed by a Registered Professional Engineer (RPE) shall certify that the proposed surface meets the criteria of an all weather driving surface and is capable of withstanding the weight of 72,000 pounds.
4. The gradient for access roads shall not exceed 10%.
5. Speed bumps are prohibited.
6. Any obstruction in required fire access roadways such as speed humps or other traffic calming measures, when approved by the Fire Code Official, shall be in accordance with the Newport Beach Public Works Department's Neighborhood Traffic Management Guidelines.
7. The inside turning radius for an access road shall be 20 feet or greater. The outside turning radius shall be a minimum of 40 feet. Cul-de-sacs with center obstruction (islands) will require a larger turning radius as approved by the fire code official.
8. Dead end fire apparatus access roads in excess of 200 feet in length shall be provided with an approved cul-de-sac for turning around fire apparatus without backing up. Turnarounds shall meet the turning radius requirements identified above as well as local standards for cul-de-sac design. The minimum cul-de-sac radius is 40 feet without parking.
9. Approach to fire access roads shall be constructed in accordance with the City of Newport Beach *Design Criteria for Public Works Construction* manual. A rolled curb approach shall have a 9:12 batter.

## ENGINEERED ALTERNATIVE SURFACE FIRE ACCESS ROADS:

Alternatives to paved surface fire access roads may only be used when approved by the Fire Code Official. The following standards shall apply to the use of engineered alternatives to surface paved fire access roads.



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1. Calculations and a statement stamped and signed by a registered civil engineer shall certify that the proposed alternative surface and its substrate meet the criteria for an all weather driving surface as specified by the product manufacturer. The engineer shall also certify that the alternative surface is capable of withstanding the weight requirements as specified in this guideline, Section C.01.3 (3.) "*FIRE APPARATUS ACCESS ROADS AND FIRE LANES*, under all weather conditions.
2. The manufacturer's specification for the product must indicate that the product is approved for the application or consistent with the manufacturer's recommendations. Manufacturer's specifications, including details for the required substrate must be included with the plan.
3. Alternative surface fire access roads may not exceed one hundred and fifty feet (150 feet) in length, from beginning to end, unless approved by the Fire Code official. The road shall conform to the width requirements described in this guideline, Section C.01.3 (2.) "*FIRE APPARATUS ACCESS ROADS AND FIRE LANES*.
4. Alternative surfaces shall only be installed on slopes of one degree (1.75% grade) or less unless specified for steeper grade by the manufacturer and approved by the Fire Code Official.
5. The design shall incorporate a curb cut or rolled curb at both the entrance and exit points that delineates entry onto the alternative surface. The curb cut or rolled curb must be indicated on the plan.
6. A minimum four inch wide concrete strip shall delineate the alternative surface on both sides of the lane. Alternatives to concrete must be approved by the Fire Chief. Strip delineations shall be indicated on the plans.
7. The following sentence shall be placed on the plan: "Final approval is subject to actual field acceptance testing utilizing fire department apparatus."
8. A clause requiring permanence, maintenance and upkeep of the alternative surface shall be included in the properties CC&Rs, deed and/or similar documents. The document shall be submitted with the plans.



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## FIRE APPARATUS ACCESS GATES AND BARRIERS:

1. Vehicle access gates or barriers installed across streets shall be in accordance with this guideline and the CFC and NBMC. Three site plans are required for gate/barrier plan review and approval. Plans shall indicate measurements, location, type of gate/barrier, and type of locking device, approved opening devices, and gate swing direction.
2. The minimum width of any gate or opening required as a point of access shall not be less than 14 feet unobstructed width. The minimum width may be increased depending on the length of the approach.
3. All emergency vehicle access gates, private gated communities, chains across fire lanes, and gates that provide access to the beach and/or wildland areas, shall have a lock approved by the Newport Beach Fire Department. Where gates are electrically operated, an approved key switch and an approved remote opening device shall be installed and maintained operational at all times or the gate shall be locked in the open position until operational.

## FIRE LANES:

1. Fire lanes shall be required for every building when any portion of an exterior wall of the first story is located more than 150 feet from fire department vehicle access. Fire lanes are normally dedicated roads that are provided for the fire apparatus to gain access to the sides and rear of buildings. Fire lanes shall be designed and maintained to support the imposed loads of fire apparatus and shall be provided with a surface so as to provide all-weather driving capabilities in accordance with all other provisions of this guideline.